

Title (en)
ROBOT WITH MICRO PROCESSOR-BASED DIGITAL ROBOT CONTROL

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Application
EP 87310242 A 19871119

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- US 93299086 A 19861120

Abstract (en)
[origin: EP0269372A2] A digital robot control [Figures 3 and 5] is provided with cascaded position/velocity [Figure 10] and torque [Figure 6] control loops with microprocessor servo controllers in each. Each servo controller includes two microprocessors (202, 204) that operate as a servo engine in providing motion control for six robot axes [Figure 1, 21-26]. One microprocessor (202) is structured to perform data processing and coordination tasks. The other one (204) performs calculation tasks and operates as a slave processor to the first. Also included as part of the robot control is a digital position and velocity feedback system [Figure 13, 810, 812] for multiaxis robot control which employs a circuit [Figure 14, 813] to process robot motor encoder incremental position signals for position change and velocity computations. At low speeds, velocity is computed [Figure 17, 848] from the reciprocal of elapsed time. At higher speeds, velocity is computed (850) from the rate at which incremental position signals are generated.

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Citation (search report)

- EP 0108549 A1 19840516 - TOKYO SHIBAURA ELECTRIC CO [JP]
- EP 0110347 A1 19840613 - HITACHI LTD [JP]
- EP 0128355 B1 19870819
- DE 2731041 B2 19800821
- DE 3046897 A1 19810827 - HITACHI LTD [JP]
- DE 3142406 A1 19820729 - UNIMATION INC [US]
- DE 3210675 A1 19821028 - CINCINNATI MILACRON INC [US]
- FR 2527967 A1 19831209 - MERLIN GERIN [FR]
- Soviet Inventions Illustrated, Section EL, week 8502, February 20, 1985 Derwent Publications Ltd., London T 06 * SU 1092-462-A (Minsk Wireless Eng) *

Cited by
US7285927B2; EP0389161A3; CN114108994A; GB2316192A; GB2316192B; FR2639774A1; WO2013002443A1

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